CITY COUNCIL REPORT

Meeting Date: September 23, 2014
General Plan Element: ***Public Services and Facilities***
General Plan Goal: ***Promote a culture of workplace safety for our employees***

ACTION

Professional Engineering Services Contract to Assist in Identifying Arc Flash and Electrical Safety Hazards within the City's Water and Wastewater Facilities, and Develop an Electrical Safety Program to Address Those Hazards. Adopt Resolution No. 9880 authorizing Contract No. 2014-143-COS with Delta Systems Engineering, Inc. (DeltaSE) to conduct an electrical arc flash hazard analysis throughout the City's water and wastewater systems and develop an electrical safety program based on the National Fire Protection Association Standard for Electrical Safety in the Workplace for a cost not to exceed $745,438. This project will extend over two fiscal years.

BACKGROUND

One element of the City's Workplace Foundational Skills Model is a focus on safety. Water Resources is committed to a high degree of safety in the workplace. Many of our safety practices are governed by the Occupational Safety and Health Administration (OSHA), which has established workplace safety standards. Working around electrical equipment requires personal protective equipment as specified under OSHA 29CFR 1910.335. The standards for meeting this requirement have been developed by the National Fire Protection Association (NFPA) and is referred to as NFPA 70E, Standard for Electrical Safety in the Workplace.

One such electrical hazard is referred as arc flash. An arc flash hazard is an uncontrolled flow of electrical current through the air that can result in an explosive discharge of high temperature gas or molten metal from the electrical cabinet that can result in substantial damage to equipment and serious human injury or death within the arc flash boundary. An arc flash can occur when a person accidentally comes in contact with energized electrical equipment or improperly maintained or malfunctioning equipment.

Conducting an arc flash hazard analysis utilizes procedures developed under NFPA 70E. While the City has electrical safety policies to provide additional safety measures for our employees and contractors, the arc flash analysis will introduce additional safety precautions to protect workers near electrical hazards.

Action Taken _____

The first step in conducting arc flash testing analysis is to conduct a field analysis of all electric motor control centers and related equipment throughout the water and wastewater system. There are greater than 150 remote water and wastewater sites and treatment facilities within the City's service area that contain potential electrical hazards. The collected data is used to conduct a circuit breaker and fuse trip study; short circuit analysis and arc flash hazard calculation. Once the analysis is completed, the arc flash protection boundary and incident energy levels are determined and a label is generated and installed on the electrical equipment specifying the hazard and level of personal protection equipment needed to perform work on the component. The final step will be to update existing safety policies and develop an Electrical Safety Program to conform to safe work practices outlined by NFPA 70E.

ANALYSIS & ASSESSMENT

Recent Staff Action

DeltaSE was selected pursuant to the State of Arizona Annual request for Qualifications #ADSPO13-00002112 and the General Guidelines For Subsequent Selection Process published by the State Procurement Office for their annual statewide professional services. Water Resources staff contacted three (3) professional engineering firms from the State Procurement Office's list of Professional Services – Annual Statement of Qualifications and provided each firm with an anticipated project scope of work. Each firm was asked to submit a detailed proposal based on the anticipated project scope of work, outlining how the arc flash safety program will be carried out and a relative timeframe to conduct such a program. A staff panel from Water Resources reviewed each firm's submittal package and selected DeltaSE based on their experience, how the program will be carried out, staff credentials and timeframe for conducting the program.

Approval of this contract with DeltaSE will initiate a comprehensive arc flash assessment across Water Resources' facilities and generate an electrical safety program consistent with NFPA guidelines. The analyses, safety program development, and electrical equipment labeling will strengthen site safety and reduce the risk of injury to staff. This contract is for a period of 18 months that extends over two fiscal years.

RESOURCE IMPACTS

Available Funding

Water and sewer rates will fund this contract.

Staffing, Workload Impact

Existing Water Resources staff is available to administer this engineering services contract and to assist DeltaSE staff at each site.

Future Budget Implications

This program is scheduled to be completed within 18 months starting in FY15 and funded with adopted operating budget authority and will be completed in FY16 pending further operating

budget approval. Additional operating or capital funding may be needed to construct recommended improvements to the electrical equipment to protect workers around identified hazards.

OPTIONS & STAFF RECOMMENDATION

Recommended Approach

Adopt Resolution No. 9880 authorizing Engineering Services Contract 2014-143-COS with DeltaSE in an amount not to exceed $745,438.

RESPONSIBLE DEPARTMENT(S)

Water Resources Department

STAFF CONTACTS (S)

Richard Sacks, Senior Water Resources Engineer
(480) 312-5673, rsacks@scottsdaleaz.gov

APPROVED BY

Brian K. Biesemeyer, Executive Director
(480) 312-5683

9-5-2014
Date

ATTACHMENTS

1. Resolution No. 9880
2. Engineering Services Contract No. 2014-143-COS

RESOLUTION NO. 9880

A RESOLUTION OF THE COUNCIL OF THE CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA, AUTHORIZING CONTRACT NO. 2014-143-COS WITH DELTA SYSTEMS ENGINEERING, INC. FOR ENGINEERING SERVICES TO CONDUCT AN ARC FLASH HAZARD ANALYSIS.

The City desires to contract for Engineering services to conduct an arc flash hazard analysis throughout the City's water and wastewater system and review and update the existing electrical safety policies; and

The engineering firm of Delta Systems Engineering, Inc. is qualified to render the services desired by the City.

BE IT RESOLVED by the Council of the City of Scottsdale as follows:

Section 1. The Mayor of the City of Scottsdale is authorized and directed to execute Contract No. 2014-143-COS with Delta Systems Engineering, Inc. for Engineering services to conduct an arc flash hazard analysis.

PASSED AND ADOPTED by the Council of the City of Scottsdale this 23rd day of September, 2014.

ATTEST:

CITY OF SCOTTSDALE, an
Arizona Municipal Corporation

By: _____
Carolyn Jagger, City Clerk

By: _____
W.J. "Jim" Lane, Mayor

APPROVED AS TO FORM:

Bruce Washburn, City Attorney
By: Clifford J. Frey
Senior Assistant City Attorney

CITY OF SCOTTSDALE
ENGINEERING SERVICES CONTRACT

THIS CONTRACT entered into this 23rd day of September, 2014, between the City of Scottsdale, an Arizona municipal corporation, the "CITY", and Delta Systems Engineering, Inc. an Arizona Corporation, the "ENGINEER".

WITNESSETH

The Mayor of the City of Scottsdale is authorized by provisions of the City Charter to execute contracts for professional services; and

The City intends to contract for Engineering services to conduct an arc flash hazard analysis throughout the City's water and wastewater system and review and update the existing electrical safety policies; and

The Engineer is qualified to render the services desired by the City;

FOR AND IN CONSIDERATION of the parties' mutual covenants and conditions, it is agreed between the City and the ENGINEER as follows:

1.0 ***COMMENTS/SPECIAL INSTRUCTION:*** Engineer's services are provided pursuant to State of Arizona Annual Request for Qualifications #ADSPO13-00002112 (Referenced online at http://www.spo.az.gov/Procurement_Services/AE_List_FY_2013/default.asp). Unless otherwise stated herein, the City and Engineer agree their respective duties and obligations shall be as set forth within the State's Annual Request for Qualifications, and "State" shall also refer to and mean the City of Scottsdale with all such provisions accruing to City of Scottsdale.

2.0 To the extent any terms and conditions set forth in State of Arizona's Annual Statement of Qualifications #ADSPO13-00002112 are inconsistent with this Contract; the terms of this Contract shall prevail. The parties hereby agree all remaining provisions of the State Contract not set forth as part of this Contract shall be of no effect.

3.0 ***SCOPE OF SERVICES***

The Engineer will act under the authority and approval of the Contract Administrator to provide the Engineering services required by this Contract.

The City wishes to assign Engineer the tasks specified in the attached Exhibit A, Project Scope of Work, which is incorporated by reference and made a part of this Contract.

The Engineer must obtain all necessary information for the timely completion of the tasks specified in Exhibit A, Project Scope of Work.

4.0 FEES AND PAYMENTS

4.1 FEE SCHEDULE

The amount paid to the Engineer under this Contract will not exceed $745,438.

4.2 PAYMENT APPROVAL

The time spent for each task must be recorded and submitted to the Contract Administrator. The Engineer must maintain all necessary books, papers, documents, accounting records and other evidence pertaining to time billed and to costs incurred and make these materials available at all reasonable times during the contract period.

Monthly payments will be made to the Engineer on the basis of a progress report submitted by the Engineer for work completed through the last day of the preceding calendar month. Each task is subject to review and approval by the Contract Administrator to determine acceptable completion.

The Contract Administrator will prepare a partial payment request document for the Engineer's acceptance. However, not more than 90% of the total contract price will be paid before City's final acceptance of all completed work.

The Contract Administrator reserves the exclusive right to determine the amount of work performed and payment due the Engineer on a monthly basis.

All charges must be approved by the Contract Administrator before payment.

5.0 GENERAL TERMS AND CONDITIONS

5.1 CONTRACT ADMINISTRATOR

The Contract Administrator for the City will be Richard Sacks, or designee. The Contract Administrator will oversee the performance of this Contract, assist the Engineer in accessing the organization, audit billings, and approve payments. The Engineer must submit all reports and special requests through the Contract Administrator.

5.2 TERM OF CONTRACT

The Engineer agrees to proceed with the work immediately upon notification to proceed issued by the Contract Administrator and shall complete all work within 18 months, including City review.

This Contract shall be in full force and effect when it has been approved by the City Council of the City of Scottsdale, Arizona and signed by its Mayor as attested by the City Clerk.

This Contract is in full force and effect when all signatures have been affixed hereon.

In the event that any tasks remain incomplete after the specified completion time period, continuation of this Contract shall be subject to written approval by the Contract Administrator.

5.3 *TERMINATION OF CONTRACT*

The City has the right to terminate this Contract or abandon any portion of the project for which services have not been performed by the Engineer.

Termination for Convenience: The City reserves the right to terminate this Contract or any part of it for its sole convenience with 30 days written notice. If terminated, the Engineer must immediately stop all work, and will immediately cause any of its suppliers and Subcontractors to cease all work. As compensation in full for services performed to the date of the termination, the Engineer will receive a fee for the percentage of services actually completed. This fee will be in the amount mutually agreed upon by the Engineer and the City, based on the agreed Scope of Work. If there is no mutual agreement, the Contract Administrator will determine the percentage of completion of each task detailed in the Scope of Work and the Engineer's compensation will be based on this determination. The City will make this final payment within 60 days after the Engineer has delivered the last of the partially completed items. The Engineer will not be paid for any work done after receipt of the notice of termination, or for any costs incurred by the Engineer's suppliers or Subcontractors, which the Engineer could reasonably have avoided.

Termination for Cause: City may also terminate this Contract or any part hereof with seven (7) days notice for cause in the event of any default by the Engineer, or if the Engineer fails to comply with any of the terms and conditions of this Contract. Unsatisfactory performance as judged by the Contract Administrator and failure to provide City, upon request, with adequate assurances of future performance shall all be causes allowing City to terminate this Contract for cause. In the event of termination for cause, City shall not be liable to Engineer for any amount, and Engineer shall be liable to City for any and all damages sustained by reason of the default which gave rise to the termination.

In the event Engineer is in violation of any Federal, State, County or City law, regulation or ordinance, the City may terminate this Contract immediately upon giving notice to the Engineer.

In the event the City shall terminate this Contract or any part of the services as herein provided, the City shall notify the Engineer in writing, and immediately upon receiving such notice, the Engineer shall discontinue advancing the work under this Contract and proceed to close said operations.

Upon such termination or abandonment, the Engineer shall deliver to the City all drawings, special provisions, field survey notes, reports, and estimates, entirely or partially completed, in any format, including but not limited to written or electronic media, together with all unused materials supplied by the City. Use of incomplete data shall be the City's sole responsibility.

The Engineer shall appraise the work it has completed and submit its appraisal to the City for evaluation.

If through any cause, the Engineer shall fail to fulfill in a timely and proper manner its obligations under this Contract, or if the Engineer shall violate any of the covenants, agreements, or stipulations of this Contract, the City may withhold any payments to the Engineer for the purpose of setoff until such time as the exact amount of damages due the City from the Engineer is determined by a court of competent jurisdiction.

5.4 FUNDS APPROPRIATION

If the City Council does not appropriate funds to continue this Contract and pay for charges hereunder, the City may terminate this Contract at the end of the current fiscal period. The City agrees to give written notice of termination to the Engineer at least thirty (30) days prior to the end of its current fiscal period and will pay to the Engineer all approved charges incurred through the end of such period.

5.5 AUDIT

The City may audit all of the Engineer's records, calculations, and working documents pertaining to this work at a mutually agreeable time and place.

Engineer's records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by the City to substantiate charges and claims related to this Contract shall be open to inspection and subject to audit and/or reproduction by City's authorized representative to the extent necessary to adequately permit evaluation and verification of cost of the work, and any invoices, change orders, payments or claims submitted by the Engineer or any of his payees pursuant to the execution of the Contract. The City's authorized representative shall be afforded access, at reasonable times and places, to all of the Engineer's records and personnel pursuant to the provisions of this article throughout the term of this Contract and for a period of three years after last or final payment.

Engineer shall require all Subcontractors, insurance agents, and material suppliers (payees) to comply with the provisions of this article by insertion of the requirements hereof in a written contract agreement between Engineer and payee. Such requirements will also apply to any and all Subcontractors.

If an audit in accordance with this article, discloses overcharges, of any nature, by the Engineer to the City in excess of one percent (1%) of the total contract billings, the actual cost of the City's audit shall be reimbursed to the City by the Engineer. Any adjustments and/or payments which must be made as a result of any such audit or inspection of the Engineer's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of City's findings to Engineer.

5.6 OWNERSHIP OF PROJECT DOCUMENTS

All documents, including but not limited to, field notes, design notes, tracings, data compilations, studies, and reports in any format, including but not limited to, written or electronic media, which are prepared in the performance of this Contract are to be and remain the property of the City and are to be delivered to the Contract Administrator before final payment is made to the Engineer.

When the work detail covers only the preparation of preliminary reports or plans, there shall be no limitations upon the City as to subsequent use of the plans or ideas incorporated therein, for the preparation of final construction plans. The City does agree to release the Engineer from any liability related to the preparation of final construction plans by others.

5.7 COMPLETENESS AND ACCURACY

The Engineer shall be responsible for the completeness and accuracy of its work, including but not limited to, survey work, reports, supporting data, and drawings, sketches, etc. prepared or compiled pursuant to this Contract and shall correct, at its expense, all errors or omissions therein which may be disclosed. The cost necessary to correct those errors attributable to the Engineering errors shall be chargeable to the Engineer. Additional construction added to the project shall not be considered the responsibility of the Engineer unless the need for same was created by any error, omission, or negligent act of the Engineer. The fact that the City has accepted or approved the Engineer's work shall in no way relieve the Engineer of any of its responsibilities.

5.8 ATTORNEY'S FEES

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this Contract, or on account of any breach or default hereof, the prevailing party shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, determined by the court sitting without a jury, which shall be deemed to have accrued on the commencement of such action.

5.9 SUCCESSORS AND ASSIGNS

This Contract shall extend to and be binding upon the Engineer, its successors and assigns, including any individual, company, partnership, or other entity with or into which the Engineer shall merge, consolidate, or be liquidated, or any person, corporation, partnership, or other entity to which the Engineer shall sell its assets.

5.10 ASSIGNMENT

Services covered by this Contract shall not be assigned or sublet in whole or in part without the prior written consent of the Contract Administrator.

5.11 SUBCONTRACTORS

During the performance of the Contract, the Engineer may engage such additional Subcontractors as may be required for the timely completion of this Contract. The addition of any Subcontractors shall be subject to the prior approval of the City.

In the event of subcontracting, the sole responsibility for fulfillment of all terms and conditions of this Contract rests with the Engineer.

5.12 ALTERATIONS OR ADDITIONS TO SCOPE OF SERVICES

The total Scope of Engineering Services to be performed in accordance with this Contract is set forth herein, and, if the Engineer is asked to perform services which are not included in this Contract, they will be considered additional services. The Engineer shall not perform these services without written authorization in the form of an approved Change Order from the City. In the event the Engineer performs the additional services without written authorization (Change Order) from the City to perform same, it shall be assumed that the additional services were included in the original Scope of Services and the fees set forth herein, and therefore, the Engineer shall not be permitted to request nor receive any additional compensation for those additional services.

5.13 MODIFICATIONS

Any amendment, modification or variation from the terms of this Contract shall be in writing and shall be effective only after approval of all parties signing the original Contract.

5.14 CONFLICT OF INTEREST

Engineer warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for Engineer, to solicit or secure this Contract, and that it has not paid or agreed to pay any person or persons, other than a bona fide employee working solely for Engineer any fee, commission, percentage, brokerage fee, gifts or any consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, City shall have the right to annul this Contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee, together with costs and attorney's fees.

The City may cancel any Contract or Agreement, without penalty or obligation, if any person significantly involved in initiating, negotiating, securing, drafting, or creating the Contract on behalf of the City's departments or agencies is, at any time while the Contract or any extension of the Contract is in effect, an employee of any other party to the Contract in any capacity or a consultant to any other party to the Contract with respect to the subject matter of the Contract. The cancellation shall be effective when written notice from the City is received by all other parties to the Contract, unless the notice specifies a later time (A.R.S. 38-511).

The Engineer shall reveal fully in writing any financial or compensatory agreement which it has with a prospective Engineer prior to the City's publication of documents for bidding.

5.15 FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, or power failures.

5.16 TAXES

The fee listed in this Contract includes any and all taxes applicable to the activities hereunder. The City shall have no obligation to pay additional amounts for taxes of any type.

5.17 ADVERTISING

No advertising or publicity concerning the City using the Engineer's services shall be undertaken without prior written approval of such advertising or publicity by the Contract Administrator.

5.18 COUNTERPARTS

This Contract may be executed in one or more counterparts, and each executed duplicate counterpart of this Contract shall be deemed to possess the full force and effect of the original.

5.19 ENTIRE AGREEMENT

This Contract constitutes the entire understanding of the parties and no representations or agreements, oral or written, made prior to its execution shall vary or modify the terms herein.

5.20 ARIZONA LAW

This Contract shall be governed and interpreted according to the laws of the State of Arizona.

5.21 EQUAL EMPLOYMENT OPPORTUNITY

The Engineer shall comply with Executive Order No. 11245, entitled "Equal Employment Opportunity", as amended by Executive Order No. 11375, and as supplemented in Department of Labor Regulations (41 CFR Part 60).

5.22 EVALUATION OF ENGINEER'S PERFORMANCE

The Engineer will be evaluated regarding its performance of this Contract. This evaluation shall include, but not be limited to, the following consideration for:

Completeness
Accuracy
Utility Coordination
Technical Expertise
Organization
Appearance of plans (linework, lettering, etc.)
Working relationship with City staff and others
Availability
Communication skills (meetings, correspondence, etc.)

This evaluation will be prepared by the staff and used to evaluate the desirability to proceed with negotiations for additional services.

5.23 NOTICES

All notices or demands required to be given, pursuant to the terms of this Contract, shall be given to the other party in writing, delivered by hand or registered or certified mail, at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

On behalf of the Engineer:

Brian Downing, P.E., President and CEO
Delta Systems Engineering, Inc.
3550 N. Central Ave., Suite 915
Phoenix, AZ 85012

On behalf of the City:

Richard Sacks, P.E., Sr. Water Resources Engineer
Water Resources
9379 E. San Salvador
Scottsdale, AZ 85258

Notices shall be deemed received on date delivered if delivered by hand and on the delivery date indicated on receipt if delivered by certified or registered mail.

5.24 INDEPENDENT CONTRACTOR

The services Contractor provides under the terms of this Contract to the City are that of an Independent Contractor, not an employee, or agent of the City. The City will report the value paid for these services each year to the Internal Revenue Service (I.R.S.) using Form 1099.

City shall not withhold income tax as a deduction from contractual payments. As a result of this, Contractor may be subject to I.R.S. provisions for payment of estimated income tax. Contractor is responsible for consulting the local I.R.S. office for current information on estimated tax requirements.

5.25 REQUEST FOR TAXPAYER I.D. NUMBER & CERTIFICATION I.R.S. W-9 FORM

Upon request, the Contractor shall provide the required I.R.S. W-9 FORM which is available from the IRS website at www.irs.gov under their forms section.

5.26 INELIGIBLE BIDDER

The preparer of specifications is not eligible to submit a bid or proposal on the solicitation for which they prepared the specification, nor is the preparer eligible to supply any product to a bidder or offeror on the solicitation for which they prepared the specification.

5.27 IMMIGRATION LAW COMPLIANCE

Under the provisions of A.R.S. §41-4401, the Contractor warrants to the City that the Contractor and all its subcontractors will comply with all Federal Immigration laws and regulations that relate to their employees and that the Contractor and all its subcontractors now comply with the E-Verify Program under A.R.S. §23-214(A).

A breach of this warranty by the Contractor or any of its subcontractors will be considered a material breach of this Contract and may subject the Contractor or Subcontractor to penalties up to and including termination of this Contract or any subcontract. The Contractor will take appropriate steps to assure that all subcontractors comply with the requirements of the E-Verify Program. The Contractor's failure to assure compliance by all its' subcontractors with the E-Verify Program may be considered a material breach of this Contract by the City.

The City retains the legal right to inspect the papers of any employee of the Contractor or any subcontractor who works on this Contract to ensure that the Contractor or any subcontractor is complying with the warranty given above.

The City may conduct random verification of the employment records of the Contractor and any of its subcontractors to ensure compliance with this warranty. The Contractor agrees to indemnify, defend and hold the City harmless for, from and against all losses and liabilities arising from any and all violations of these statutes.

5.28 LAWFUL PRESENCE IN THE UNITED STATES FOR PERSONS

Arizona State law A.R.S. §1-502 (H.B. 2008) requires that all PERSONS who will be awarded a contract and apply for public benefit must demonstrate through a signed affidavit and the presentation of a copy of documentation that they are lawfully present in the United States.

PERSONS is defined as all NATURAL PERSONS / INDIVIDUALS / SOLE PROPRIETORSHIPS as indicated by your W9 Filing. *(This law does not apply to LLP's, LLC's, PLLC's, Corporations Limited Partnerships or General Partnerships)*

By submitting your quote, bid, proposal and/or indicating your desire to enter in a contract with the City you are agreeing that if you are selected as the awardee and meet the criteria as a PERSON you will abide by this law and sign and submit an AFFIDAVIT DEMONSTRATING LAWFUL PRESENCE IN THE UNITED STATES and attach the appropriate copy of your documentation in proof of that statement. Types of acceptable documentation copies are an Arizona Drivers License issued after 1996, Arizona nonoperating identification license, U.S. birth certificate, U.S. Passport, I-94 Form with photograph and several others that are all listed on the Affidavit form that the City will send to you for your completion prior to issuing any contract.

If you have previously done business with the City and already have filed the above Affidavit with copies of an acceptable documentation please indicate when you submitted it. If your acceptable Affidavit is already on file with the City that will be sufficient to meet this requirement.

If you fail to complete and provide a completed Affidavit and accompanying acceptable copy of your documentation, or not advise us of your prior filing within 10 calendar days of being requested by then you may be considered non responsive and disqualified from that award consideration. You can obtain the complete Affidavit form from the City's Purchasing Department at (480) 312-5700 or the City's website at http://www.scottsdaleaz.gov/Purchasing on the Vendor Resources page at the bottom right under Forms.

5.29 NO PREFERENTIAL TREATMENT OR DISCRIMINATION

In accordance with the provisions of Article II, Section 36 of the Arizona Constitution, the City will not grant preferential treatment to or discriminate against any individual or group on the basis of race, sex, color, ethnicity or national origin.

5.30 INDEMNIFICATION

To the fullest extent permitted by law, the Engineer must defend, indemnify and hold harmless the City, its agents, representatives, officers, directors, officials and employees against all allegations, demands, suits, actions, claims, damages, losses, expenses, attorney fees, court costs, cost of appellate proceedings, and all claim adjusting and handling expense arising out of any negligence, recklessness, or intentional wrongful conduct, errors, or omissions but only to the extent caused by the Engineer. The Engineer is defined as the Contractor, its successors, assigns and

guarantors, any subconsultant or anyone directly or indirectly employed by the Engineer or subconsultant or anyone for whose acts the Engineer or subconsultant may be liable and any injury or damages claimed by any of the Engineer's and subconsultant's employees.

Insurance provisions in this Contract are separate and independent from the indemnity provisions of this section and will not be construed in any way to limit the scope and magnitude of the indemnity provisions. The indemnity provisions of this section must not be construed in any way to limit the scope and magnitude and applicability of the insurance provisions.

6.0 INSURANCE

The solicitation or contract contains the Standard Acord Certificate.

The Acord Certificate is acceptable provided it is identical to the sample attached and contains the additional language and deleted language as shown on the sample.

Failure to provide a Certificate of Insurance with the appropriate verbiage as indicated on the attached samples will result in rejection of your certificate and delay in contract execution.

Additionally Certificates of Insurance submitted without referencing a Contract number will be subject to rejection and returned or discarded.

6.1 Insurance Representations and Requirements

A. General: The Engineer agrees to comply with all applicable City ordinances and state and federal laws and regulations.

Without limiting any obligations or liabilities of the Engineer, the Engineer must purchase and maintain, at its own expense, the required minimum insurance with insurance companies duly licensed or approved to conduct business in the State of Arizona and with an A.M. Best's rating of B++6 or above with policies and forms satisfactory to City. Failure to maintain insurance as required may result in cancellation of this Contract at the City's option.

B. No Representation of Coverage Adequacy: By requiring insurance, City does not represent that coverage and limits will be adequate to protect the Engineer. The City reserves the right to review any and all of the insurance policies and endorsements cited in this Contract but has no obligation to do so. Failure to demand evidence of full compliance with the insurance requirements in this Contract or failure to identify any insurance deficiency will not relieve the Engineer from, nor will it be considered a waiver of its obligation to maintain the required insurance at all times during the performance of this Contract.

C. Coverage Term: The Engineer must maintain all required insurance in full force and effect until all work or services are satisfactorily performed and accepted by the City of Scottsdale, unless specified otherwise in this Contract.

D. Claims Made: If any required insurance policies are written on a "claims made" basis, coverage must extend for 3 years past completion and acceptance of the work or service. The Engineer must annually submit Certificates of Insurance citing

that the applicable coverage is in force and contains the required provisions for the 3 year period.

E. Policy Deductibles and or Self Insured Retentions: The required policies may provide coverage which contain deductibles or self-insured retention amounts. The Engineer is solely responsible for any deductible or self-insured retention amount and the City, at its option, may require the Engineer to secure payment of the deductible or self-insured retention by a surety bond or irrevocable and unconditional Letter of Credit.

F. Use of Subconsultants: If any work is subcontracted in any way, the Engineer must execute a written agreement with Subconsultant containing the same Indemnification Clause and Insurance Requirements as the City requires of the Engineer in this Contract. The Engineer is responsible for executing the Contract with the Subconsultant and obtaining Certificates of Insurance and verifying the insurance requirements.

G. Evidence of Insurance: Before commencing any work or services under this Contract, the Engineer must furnish the Contract Administrator with Certificate(s) of Insurance, or formal endorsements issued by the Engineer's insurer(s) as evidence that policies are placed with acceptable insurers and provide the required coverages, conditions, and limits of coverage and that the coverage and provisions are in full force and effect. If a Certificate of Insurance is submitted as verification of coverage, the City will reasonably rely upon the Certificate of Insurance as evidence of coverage but this acceptance and reliance will not waive or alter in any way the insurance requirements or obligations of this Contract. If any of the required policies expire during the life of this Contract, the Engineer's must forward renewal Certificates to the City within 10 days after the renewal date containing all the necessary insurance provisions.

Certificates shall specifically cite the following provisions:

1. The City of Scottsdale, its agents, representatives, officers, directors, officials and employees are named as an Additional Insured under the following policies:

   a) Commercial General Liability
   b) Auto Liability
   c) Excess Liability - Follow Form to underlying insurance as required.

2. The Engineer's insurance must be primary insurance for all performance of work under this Contract.

3. All policies, except Professional Liability insurance if applicable, waive rights of recovery (subrogation) against the City, its agents, representatives, officers, directors, officials and employees for any claims arising out of work or services performed by the Engineer under this Contract.

4. Certificate must cite a 30-day advance notice of cancellation provision or 10 days notice of cancellation for non-payment of premiums.

6.2 Required Coverage

A. Commercial General Liability: The Engineer must maintain "occurrence" form Commercial General Liability insurance with a limit of not less than $1,000,000 for

each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate, and a $2,000,000 General Aggregate Limit. The policy must cover liability arising from premises, operations, independent contractors, products-completed operations, and personal injury and advertising injury. If any Excess insurance is utilized to fulfill the requirements of this section, the Excess insurance must be "follow form" equal or broader in coverage scope than the underlying insurance.

B. Professional Liability: The Engineer must maintain Professional Liability insurance covering errors and omissions arising out of the work or services performed by the Engineer, or anyone employed by the Engineer, or anyone for whose acts, mistakes, errors and omissions the Engineer is legally liable, with a liability insurance limit of $1,000,000 each claim and $2,000,000 all claims. If the Professional Liability insurance policy is written on a "claims made" basis, coverage must extend for 3 years past completion and acceptance of the work or services, the Engineer must annually submit Certificates of Insurance citing that the applicable coverage is in force and contains the required provisions for a 3 year period.

C. Vehicle Liability: The Engineer must maintain Business Automobile Liability insurance with a limit of $1,000,000 each accident on the Engineer's owned, hired, and non-owned vehicles assigned to or used in the performance of the Engineer's work or services under this Contract. If any Excess insurance is utilized to fulfill the requirements of this paragraph, the Excess insurance must be "follow form" equal or broader in coverage scope than the underlying insurance.

D. Workers Compensation Insurance: The Engineer must maintain Workers Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of the Engineer's employees engaged in the performance of work or services under this Contract, and must also maintain Employers' Liability Insurance of not less than $100,000 for each accident, $100,000 disease for each employee and $500,000 disease policy limit.

7.0 SEVERABILITY AND AUTHORITY

7.1 SEVERABILITY

If any term or provision of this Contract shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this Contract shall remain in full force and effect and such term or provision shall be deemed to be deleted.

7.2 AUTHORITY

Each party hereby warrants and represents that it has full power and authority to enter into and perform this Contract, and that the person signing on behalf of each party has been properly authorized and empowered to enter this Contract. Each party further acknowledges that it has read, understands, and agrees to be bound by the terms and conditions of this Contract.

IN WITNESS WHEREOF, the City of Scottsdale by its Mayor and City Clerk have hereunto subscribed their names this 23rd day of September, 2014.

CITY OF SCOTTSDALE

W.J. "Jim" Lane, Mayor

ATTEST:

Carolyn Jagger, City Clerk

ENGINEER:

DeltaSE

Signature

BRIAN DOWNING

Name

PRESIDENT

Title

James Flanagan
Purchasing Director

Katherine Callaway
Risk Management Director

Contract Administrator

APPROVED AS TO FORM:

Bruce Washburn, City Attorney
By: Clifford J. Frey
Senior Assistant City Attorney

ACORDtm

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)

PRODUCER

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

INSURED

COMPANY A

COMPANY B

COMPANY C

COMPANY D

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Co ltr	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (mm/dd/yy)	POLICY EXPIRATION DATE (mm/dd/yy)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$
	☐ COMMERCIAL GENERAL LIABILITY				PRODUCTS COMP/OP AGG	$
	☐ CLAIMS MADE ☐ OCCUR				PERSONAL & ADV INJURY	$
	☐ OWNERS & CONTRACTORS PROT				EACH OCCURRENCE	$
					FIRE DAMAGE (Any one fire)	$
					MED EXP (Any one person)	$
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$
	☐ ANY AUTO					
	☐ ALL OWNED AUTOS				BODILY INJURY (Per person))	$
	☐ SCHEDULED AUTOS					
	☐ HIRED AUTOS				BODILY INJURY (Per accident)	$
	☐ NON-OWNED AUTOS					
					PROPERTY DAMAGE	$
	GARAGE LIABILITY				AUTO ONLY EA ACCIDENT	$
	☐ ANY AUTO				OTHER THAN AUTO ONLY:	$
					EACH ACCIDENT	$
					AGGREGATE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	☐ UMBRELLA FORM				AGGREGATE	$
	☐ OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYER'S LIABILITY				☐ WC STATU-TORY LIMITS ☐ OTHER	
	THE PROPRIETOR/ ☐ INCL				EL EACH ACCIDENT	$
	PARTNERS/EXECUTIVE ☐ EXCL				EL DISEASE . POLICY LIMIT	$
	OFFICERS ARE:				EL DISEASE . EA EMPLOYEE	$
	Other:					

Description of Operations/Locations/Vehicles/Special Items:

City of Scottsdale, its representatives, agents and employees, is an Additional Insured under Commercial General Liability and Auto Liability. All cited insurance shall be primary coverage and waive rights of recovery (subrogation), including Workers Compensation, against City of Scottsdale. No policy shall be canceled or materially changed without 30 days advance written notice. Certificate not valid unless signed by authorized representative of insurance company. **APPLICABLE CONTRACT NUMBER:** _____

CERTIFICATE HOLDER/ADDITIONAL INSURED

City of Scottsdale
9191 E. San Salvador Drive
Scottsdale, AZ 85258

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ~~ENDEAVOR TO~~ MAIL ___ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, ~~BUT FAILURE TO MAIL SUCH NOTIVE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.~~

AUTHORIZED REPRESENTATIVE

ACORD 25-S (1/95)

12620372v1

Exhibit A
Arc Flash Hazard Analysis and Electrical Safety Program Upgrades Scope of Work

1.0 GENERAL DESCRIPTION

A. City of Scottsdale is seeking professional engineering services to develop an electrical safety program based on the National Fire Protection Association (NFPA) 70E Standard for Electrical Safety in the Workplace, 2015 Edition and based on information included in the "Electrical Safety Program Book" published by the NFPA. To supplement City of Scottsdale's existing electrical safety policies and to provide additional safety measures for City of Scottsdale employees and Contractors, Delta Systems Engineering (DeltaSE) will provide the following services:

1. An Electrical Arc Flash Hazard Analysis and associated labeling

2. Assessment and inventory of existing electrical equipment

3. Update existing safety policies and develop an Electrical Safety Program to include development of safe work practices required by NFPA 70E 2015.

B. An electrical arc flash hazard analysis shall be performed for City of Scottsdale facilities included in the 'Project Tasks Cost per Site' attachment to determine incident energy, arc flash protection boundaries, and required PPE for electrical equipment as required by NFPA 70E 2015. The calculations shall comply with NFPA 70E 2015 and IEEE-1584 and performed by an Arizona licensed professional electrical engineer (PE).

C. The Arc Flash Hazard Analysis and associated labeling for each of the facilities included in the 'Project Tasks Cost per Site' attachment will comply with the following standards and requirements:

- NFPA 70, National Electric Code 2008 (110.16)
- OSHA 29 CFR 1910.269; OSHA 1910.132(d)(1)
- IEEE Std 1584-2002, IEEE Guide for Performing Arc-Flash Hazard
- Calculations and IEEE Std. 1584a-2004 (Amendment 1)
- NFPA 70E, Standard for Electrical Safety In the Workplace 2015 Edition

The Arc Flash Analysis and shock protection boundary results and associated labeling will be incorporated into the updated Electrical Safety Program policies.

2.0 SCOPE OF ENGINEERING SERVICES

DeltaSE will provide labor, materials, and equipment necessary to perform the following professional service tasks for facilities contained in the 'Project Tasks Cost per Site' Attachment. Additionally, cost information associated with Tasks 1 through 8 below is shown in the 'Project Tasks Cost per Site' Attachment.

Task 1 – Develop Implementation and Safety Plan

1) DeltaSE will inspect existing City of Scottsdale facilities listed in item 2 below. The on-site inspection will consist of the following:
   a) Inspections to determine electrical hazards involved, data collection alternatives, and Personal Protective Equipment (PPE) requirements for upcoming On-site Data Collection, Verification, & Assessment activities outlined in Task 4.

b) Inspections to create a safety plan will include the following:
   i) Obtain power distribution switchgear information including condition and accessibility
   ii) Inspect switchgear for the purpose of determining feasibility of obtaining the following information while switchgear is energized:
      (1) Main fuse information,
      (2) Main breaker and associated trip device information
      (3) Protection relay current transformer ratio information
   iii) Communicate with City staff and review feasibility of shutting down electrical switchgear for upcoming Arc Flash data gathering operations
   iv) review facilities as-built documentation as applicable

2) DeltaSE will perform on-site inspections of the following City of Scottsdale facilities:
   a) CGTF
   b) Water Campus Facility
   c) Chaparral WTP
   d) Gainey Ranch Reclamation Plant

Task 2 – Project Management

1) DeltaSE will provide the following project management activities:
   Submit progress reports indicating the following:
   a) Activities completed to date.
   b) Activities to be completed in the next period.
2) Schedule and conduct progress meetings with City of Scottsdale for the duration of the project. Teleconferencing or web conferencing is acceptable.
3) Provide ongoing management of project team members and resources to ensure that the project meets City of Scottsdale's expectations relative to quality, schedule, and budget.

Task 3 – Preliminary Coordination & Investigation

DeltaSE will conduct preliminary coordination and investigation comprised of the following subtasks:

1) Review all available electrical system documentation, as-built single-line/one-line diagrams, electrical equipment shop drawings, and previously completed arc flash hazard analyses (as applicable).
2) Coordinate with the electric utility serving City of Scottsdale facilities, to obtain the following information:
   a) Minimum and maximum three-phase short-circuit MVA and X/R ratio.
   b) Line-to-ground short-circuit MVA and X/R ratio at the point of common coupling.
   c) Utility transformer rating and impedance information
3) DeltaSE will schedule and conduct any necessary meetings with Utility necessary to obtain the information listed above.
4) Estimate the arc flash hazard level for electrical switchgear included in the Arc Flash Hazard Analysis for the purpose of determining the proper PPE for Task 4. The summary will include an estimate of the arc flash incident energy, the approach boundary distance, and the required PPE. Any existing arc flash hazard labels may be used as a reference in developing the estimated arc flash hazard summary. In the case that a piece of existing equipment does not have an arc flash hazard label, DeltaSE will estimate the associated arc flash hazard using NFPA 70E Table 130.7(C)(15) or with preliminary hazard calculations.

Task 4 – On-site Data Collection, Verification, & Assessment

DeltaSE will schedule and conduct on-site data collection, verification, and assessment comprised of the following subtasks:

1) DeltaSE will develop and submit a schedule of activities for the onsite data collection, verification, and assessment. The schedule of activities will identify dates and durations for the investigation of each facility, and will be submitted to City of Scottsdale no less than 7-calendar days prior to starting

any onsite data collection/verification. The schedule of activities will also include any equipment that City of Scottsdale staff has determined can be de-energized without adversely affecting process. City of Scottsdale staff will be responsible for de-energization of electrical equipment prior to data collection activities and subsequent re-energization of electrical equipment after data collection activities have been completed.

2) In accordance with the approved schedule of activities, DeltaSE will conduct on-site data collection and verification necessary to develop the Arc Flash Hazard Analysis. DeltaSE's on-site activities will include the following:
   a) Testing to confirm absence of voltage if equipment has been de-energized.
   b) Inspect and document electrical equipment, including conductor sizes and lengths, distribution equipment types and ratings, transformer ratings and impedances, overcurrent protection device information (manufacturer, size, and trip setting), and protective device ratings, settings, and model numbers.
      i) If field-verification of conductor sizes within energized equipment brings about increased personnel hazards due to tight equipment clearances, DeltaSE will utilize conductor sizes shown on existing record single line diagrams.
   c) Document internal and external physical condition of electrical equipment.
3) In accordance with the approved schedule of activities, and concurrent with item 2) above, DeltaSE will conduct on-site electrical switchgear assessment consisting of the following:
   a) Document electrical switchgear inventory
   b) Document switchgear ratings and voltage
   c) Document switchgear condition
   d) Identify existing signs and labels that are not appropriate and need to be removed.
   e) Provide recommendations
4) In the event that a piece of electrical equipment cannot be de-energized for inspection, as dictated by City of Scottsdale, DeltaSE will utilize the appropriate PPE, based on the arc flash hazard estimates developed as part of Task 3 to obtain and verify equipment information.
5) City of Scottsdale's participation in the on-site data collection and verification will be limited to de-energization and subsequent energization of electrical equipment, providing access to electrical rooms and panels and overseeing DeltaSE's activities. DeltaSE will provide the necessary trained personnel to perform the required on-site data collection, verification, and assessment activities.

Task 5 – Electrical System Arc Flash Analysis

1) Based on the electrical system information collected in Tasks 3 and 4, DeltaSE will perform an Arc Flash Analysis comprised of the following:
   a) Develop Electrical Power System Software Model
      i) Develop model using the following modeling software:
         (1) ETAP 12.0 by Operation Technology Inc.
      ii) The software model will include all electrical equipment in the power distribution system including:
         (1) Utility service equipment (e.g. transformers & service conductors)
         (2) Switchgear.
         (3) Switchboards.
         (4) Generators.
         (5) Transformers
         (6) Motor control centers.
         (7) Free standing variable frequency drives and starters.
         (8) Motor disconnect switches.
         (9) Motors.
            (a) Each motor greater than or equal to 50HP will be modeled individually.

(b) Motors driven by Variable Frequency Drives will be assumed to have no fault current contribution.

(10) Panel boards:

(a) Including all 240 and 208 volt systems

(b) Panelboards will be modeled as lumped loads

(11) Vendor control panels.

(12) Service, feeder, and branch circuit conductors will be modeled based on field-verified conductor sizes and lengths.

b) Short-Circuit Fault Analysis

i) Calculate 3-phase bolted fault, line-to-line fault, line-to-ground fault, double line-to-ground fault, short-circuit 1/2 cycle momentary symmetrical and asymmetrical RMS, interrupting symmetrical RMS, and 30 cycle steady state short-circuit current values at each piece of equipment in the electrical power distribution system.

ii) Evaluate bus bracing, short circuit ratings, fuse interrupting capacity and circuit breaker adjusted interrupting capacities against the fault currents.

iii) Identify and document all devices and equipment as either inadequate or acceptable.

iv) Calculate line-to-ground and double line-to-ground momentary short circuit values at all buses having ground fault devices.

v) Provide calculations for all system operating scenarios, in accordance with Institute of Electrical and Electronics Engineers (IEEE) Standard 1584 Guide for Performing Arc Flash Hazard Calculations:

(1) Operating on Utility power.

(2) Operating on standby generator power.

(3) Main-tie-main equipment:

(4) Both mains closed, tie open.

(5) Either main closed, tie breaker closed.

c) Protective Device Coordination

i) Identify overcurrent protective device settings for electrical switchgear, including:

(1) Current.

(2) Machine protection functions:

(a) Identify motor and generator overcurrent protective device settings

d) Arc Flash Hazard Analysis

i) Calculate the arc flash boundary and incident energy (calories/square centimeter) at each piece of equipment in the electrical power distribution system:

(1) Perform study with 15 percent arcing fault variation as defined by IEEE 1584.

(2) Perform arc flash calculations at maximum and minimum (if available) Utility and standby generator fault contributions. If utility minimum fault contributions cannot be obtained, a percentage of the maximum fault contribution may assumed.

(3) Perform arc flash calculations for the load side of switchgear, switchboard, & motor control centers.

(4) Perform arc flash calculations for the line side of panel board main breakers.

(5) Protective device clearing time will be limited to 2 seconds, maximum.

ii) Provide recommendations based on study results.

(1) Recommendations to be provided as outlined in Task 7 below.

e) Tabulation of all arc flash labels including label information and intended location.

Task 6 – Arc Flash Hazard Label Installation

1) DeltaSE will perform any required changes to breaker trip device settings or protective relays on-site during the site visit for Arc Flash Label installation.
2) After any required changes to trip settings have been made, Arc Flash Labels will be installed.
3) The requirements for the arc flash hazard labels are as follows:
   a) Dimensions:
      i) Minimum 5 inches by 3.5 inches.
   b) Materials:
      i) Thermal Polyester with over-laminate
      ii) High Self-adhesive.
      iii) Resistant to:
         (1) UV.
         (2) Chemicals and common cleaning solvent resistant.
         (3) Wide temperature changes.
   c) Contents:
      i) Equipment/Bus name.
      ii) Working distance.
      iii) Arc flash incident energy at the working distance (cal/cm2).
      iv) Hazard/risk, PPE category number.
      v) Arc flash protection boundary.
      vi) Shock hazard boundary.
      vii) Limited, restricted and prohibited approach distances (inches).
      viii) Description of the combined level of personnel protective equipment.
      ix) Date of issuance
   d) Color scheme:
      i) Red, Yellow, and White Label with red "DANGER" strip across the top.
      ii) Black Lettering
   e) DeltaSE will coordinate with City of Scottsdale to schedule installation of the arc flash hazard labels.
   f) Arc flash labels will be installed at locations required by NFPA 70E, ANSI, or IEEE standards, including:
      i) Front vertical section of switchgear to include:
         (1) main or incoming service compartment.
         (2) low-voltage switchboard.
         (3) medium voltage switchgear.
         (4) motor control center.
      ii) Panelboards
      iii) Disconnect switches
      iv) Control Panels
      v) Individual control panels for starters/VFDs

Task 7 – Electrical Equipment Excel Spreadsheet

1) DeltaSE will submit an Excel output file that is generated directly from the ETAP model for each facility. The Excel output file will contain raw data and from the ETAP model. The Excel output file will consist of a workbook containing tabs for each type of electrical equipment found in each facility. DeltaSE will create an additional tab in each of the workbooks associated with each facility to include recommendations associated with each facility.

Task 8 – Review and update existing Electrical Safety Policies based on NFPA recommendations

1) DeltaSE will review the existing Electrical Safety Policies and update existing sections to suit the needs of the City.
2) Updates to existing electrical safety policies and procedures developed will be in in general compliance with the upcoming NFPA 70E 2015 standard.
3) Updates to the existing Electrical Safety Policies will include the following topics:
   a) Energized Electrical Work & Authorization – Updates for City staff and Contractors
   b) PPE Requirements – Update verbiage per NFPA 70E 2015
   c) Qualifying and Authorizing Personnel – Update for on-the-job training and documentation requirements per NFPA 2015
4) DeltaSE will submit preliminary updates to the existing Electrical Safety Policies to City of Scottsdale staff for review. DeltaSE will provide an electronic copy of the preliminary updates to the existing Electrical Safety Policies in Microsoft Word using the 'track changes' feature.
5) Along with the preliminary updates to the existing Electrical Safety Policies submittal, a submittal review comment log will be provided for entry of each of City of Scottsdale's review comments. Upon receipt of the completed log, DeltaSE will provide a planned resolution for each comment.
6) To discuss the planned resolutions with City of Scottsdale, DeltaSE will schedule and conduct an Electrical Safety Program Policies Workshop with City of Scottsdale to discuss the planned resolutions. Based on the discussions that occur in the workshop, DeltaSE will update the submittal review comment log with final determinations made in the workshop.
7) Based on the final determinations made in the Electrical Safety Program Policies Workshop, DeltaSE will update and submit the final updates to existing Electrical Safety Program Policies.
8) DeltaSE will provide an electronic copy of the final updates to existing Electrical Safety Policies in Microsoft Word format.

Responsibilities of Others

1. CLIENT shall furnish power distribution single line diagrams.
2. CLIENT shall de-energize and subsequently re-energize electrical equipment for the purposes of Arc Flash data gathering operations.
3. CLIENT shall provide existing electrical safety procedures in Word format for ease of editing.
4. CLIENT shall provide clear access to all sites included in this study for the purpose of data collection, protective device adjustment, and applying Arc Flash Hazard Labels.
5. CLIENT shall review Preliminary Electrical Safety Program Policies as well as provide written comments prior to DeltaSE submitting the Final Electrical Safety Program Policies.
6. CLIENT shall provide DeltaSE authorization to obtain utility information necessary to develop the arc flash analysis for sites covered under this scope of work.

Deliverables

1. DeltaSE will provide and install Arc Flash Hazard labels on electrical equipment included in the study as outlined in Task 6 above.
2. DeltaSE will develop and submit an Electrical Equipment Excel Spreadsheet for each facility as outlined in Task 7.
3. DeltaSE will update existing electrical safety procedures so that they are compliant with NFPA 70E 2015 as outlined in Task 8.

Exclusions and Exceptions

1. DeltaSE will not obtain any permits.
2. DeltaSE will not be responsible for purchasing any equipment, hardware, or software.
3. Scope of services includes only electrical equipment located within facilities listed in 'Project Tasks Cost per Site' Attachment.
4. DeltaSE's level of effort is limited to the aforementioned scope of services. Costs incurred due to conditions beyond DeltaSE's control may result in additional charges billed on a Time and Material basis.
5. Except as modified above, this fee proposal is based on DeltaSE standards. Deliverable documents will be prepared following DeltaSE standards, and text document formatting. If significant changes to the DeltaSE standards are required, DeltaSE reserves the right to request additional time and fees to convert to a new set of standards.
6. Programming services are not included in this scope. If required, DeltaSE will provide these services on an hourly, time and material basis.
7. Should a condition exist, at no fault of DeltaSE, that interrupts or prevents DeltaSE from providing contracted services, DeltaSE may cease work until the condition(s) are remedied. At the client's request, DeltaSE may provide assistance to remedy the delaying condition(s), charged on a time and materials basis.
8. The physical marking of Arc Flash Hazard Approach Boundaries in front of electrical equipment is not included in this scope of work.
9. Excessive work interruption(s) by others that delay the provision of contracted services by DeltaSE may result in additional service charges billed on a time and materials basis.
10. DeltaSE will provide an Arc Flash Analysis and associated labeling on electrical distribution system equipment up to single phase panelboards for sites included in 'Project Tasks Cost per Site' Attachment; Arc Flash Analysis and labeling will not be provided for individual loads being fed from these single phase panelboards.
11. After incorporating final determinations made in the electrical safety program policies workshop, and providing deliverables for Task 8, any additional modifications to deliverables will be accomplished on a Time and Material basis.
12. Task 7 above does not include ETAP output Excel file raw data formatting changes or incorporation of multiple ETAP output Excel files into a single Electrical Equipment Excel Spreadsheet. Any required formatting changes to the ETAP output Excel file raw data will accomplished on a Time and Material basis.
13. Scope of work does not include development and submittal of arc flash analysis reports for individual City of Scottsdale facilities. If required, development and submittal of arc flash analysis reports for individual sites will be accomplished on a Time and Material basis.

Billing and Payment Terms

1.	Total Fee	$709,941	Lump Sum
2.	Contingency Task	$35,497	Time and Material
3.	Total Project Price	$745,438	

4. The Project Contingency Task budget is set aside for the performance of additional work associated with an unexpected increase in project scope beyond that which is currently covered under Section 2.0 Scope of Engineering Services - Tasks 1 through 8 above.

5. Any additional services requested by CLIENT that are not included herein will be charged at our Standard Hourly Rates. This proposal will be valid for the next ninety (90) days. We will bill you on a monthly basis for these services. Payment terms are Net 30 days.

Project Tasks Cost per Site

SITE #	SITE	TYPE	COST	COST MATRIX REFERENCE
	TASK 1 - Develop Implementation and Safety Plan	N/A	$2,953	COST MATRIX A
	TASK 2 - TASK 7 - Project Management, Data Collection, Arc Flash Analysis, Label Installation, Electrical Equipment Spreadsheet			
N/A	Chaparral Water Treatment Plant	WATER TREATMENT	$75,793	COST MATRIX L
N/A	Water Campus Facility	WATER TREATMENT	$143,683	COST MATRIX K
N/A	Gainey Ranch Reclamation Plant	WATER TREATMENT	$14,080	COST MATRIX M
N/A	Central Ground Water Treatment Facility	WATER TREATMENT	$15,234	COST MATRIX N
#7	7721 E. Greenway	PUMP SITE	$3,249	COST MATRIX C
#10	7350 N. Pima	PUMP SITE	$3,249	COST MATRIX C
#23	6535 E. Shea	PUMP SITE	$2,243	COST MATRIX B
#25	Indian Bend/McKellips	PUMP SITE	$2,243	COST MATRIX B
#27B	16427 N. Scottsdale Rd.	PUMP SITE	$2,243	COST MATRIX B
#28	16155 N. Miller	PUMP SITE	$2,243	COST MATRIX B
#31	8175 E. Earll Drive	PUMP SITE	$3,249	COST MATRIX C
#32	11606 N. 64th Street	PUMP SITE	$4,250	COST MATRIX D
#33	19675 N. Scottsdale Road	PUMP SITE	$2,243	COST MATRIX B
#36	12207 E. Shea	PUMP SITE	$4,250	COST MATRIX D
34	11106 E. GREENWAY RD. Mcdowell Mt.	SEWER LIFT	$2,243	COST MATRIX B
35	16807 N. Scottsdale Rd.	SEWER LIFT	$2,243	COST MATRIX B
P36	S/W PUMP BACK 7301 Doubletree	SEWER LIFT	$6,370	COST MATRIX G
P37	S/E PUMP BACK 8815 E. Via Linda	SEWER LIFT	$6,370	COST MATRIX G
P38	N/E PUMP BACK 13001 N. 87th. St.	SEWER LIFT	$6,370	COST MATRIX G
P39	N/W PUMP BACK 7535 E. Redfield	SEWER LIFT	$6,370	COST MATRIX G
P40	N. PUMP BACK 16638 N. Pima	SEWER LIFT	$6,370	COST MATRIX G
#38	7502 E. Pinnacle Peak Rd	PUMP SITE	$2,243	COST MATRIX B
#41	8402 E. Pinnacle Peak Rd	PUMP SITE	$2,243	COST MATRIX B
#42B	26602 N. Pima	PUMP SITE	$6,370	COST MATRIX G
#42DE	26602 N. Pima	PUMP SITE	$6,370	COST MATRIX G
#45	9410 E. Pinnacle Peak	PUMP SITE	$3,249	COST MATRIX C
#50	7010 E. Jomax	PUMP SITE	$2,243	COST MATRIX B
#53	6190 E. Jomax	PUMP SITE	$3,249	COST MATRIX C
#54	21851 N. Miller	PUMP SITE	$4,250	COST MATRIX D
#56	11260 E. Happy Valley Rd	PUMP SITE	$3,249	COST MATRIX C
#57	33475 N. Scottsdale Rd	PUMP SITE	$3,249	COST MATRIX C
#63	7011 E. Lone Mt. Rd.	PUMP SITE	$3,249	COST MATRIX C
#65	31202 N. 56th. St.	PUMP SITE	$2,243	COST MATRIX B
#66	8520 E. Dixileta	PUMP SITE	$3,249	COST MATRIX C
#68	11034 N. Whispering Ridge	PUMP SITE	$3,249	COST MATRIX C
#70	3701 N. 64th St.	PUMP SITE	$2,243	COST MATRIX B
#71	7601 E. Thomas	PUMP SITE	$3,249	COST MATRIX C
#72	7825 E. Thomas	PUMP SITE	$4,250	COST MATRIX D
#74	8601 E. Earl	PUMP SITE	$3,249	COST MATRIX C
#75A	4184 N. Hayden	PUMP SITE	$3,249	COST MATRIX C
#79	2931 67th Place	PUMP SITE	$3,249	COST MATRIX C
#80	8600 E. Thomas	PUMP SITE	$4,827	COST MATRIX F
#80A	8650 E. Thomas SRP LIFT	PUMP SITE	$3,249	COST MATRIX C
#81	11582 E. Via Linda	PUMP SITE	$2,243	COST MATRIX B
#82	11409 N. 118th St.	PUMP SITE	$3,249	COST MATRIX C
#83A	8960 Frank Loydd Wright	PUMP SITE	$4,572	COST MATRIX E
#83B	8960 Frank Loydd Wright	PUMP SITE	$4,572	COST MATRIX E
#86	9202 E. Cave Creek	PUMP SITE	$2,243	COST MATRIX B
#90	39742 N. Desert Mountain Pky	PUMP SITE	$3,249	COST MATRIX C
#92B	37400 N. Cave Creek Rd.	PUMP SITE	$4,250	COST MATRIX D
#94	42360 N. 111 PL.	PUMP SITE	$3,249	COST MATRIX C
#95	16010 N. Pima	PUMP SITE	$6,370	COST MATRIX G
#96	19254 N. Pima	PUMP SITE	$6,796	COST MATRIX H
#97	22665 N. Pima	PUMP SITE	$6,796	COST MATRIX H
#98	27925 N. Pima	PUMP SITE	$7,975	COST MATRIX I
#99	36015 N. Pima	PUMP SITE	$4,572	COST MATRIX E
#100	11180 E. Dynamite Rd.	PUMP SITE	$3,249	COST MATRIX C
#101	10910 E. Jomax	PUMP SITE	$3,249	COST MATRIX C
#102	Ashler Hills & Pima	PUMP SITE	$4,827	COST MATRIX F
#103	34410 N. Legend Trail Prkwy	PUMP SITE	$3,249	COST MATRIX C
#105	10775 E. Bell	PUMP SITE	$4,572	COST MATRIX E
#106	24165 N. Scottsdale Rd.B388+B361	PUMP SITE	$3,249	COST MATRIX C
#108	20712 N. 76th. St.	PUMP SITE	$3,249	COST MATRIX C
#110	9323 E. Brahma Rd.	PUMP SITE	$2,243	COST MATRIX B
#114	12234 n. Cactus	PUMP SITE	$4,572	COST MATRIX E
#115	21790 N. Hayden	PUMP SITE	$6,370	COST MATRIX G
#116	23397 N. 119th Way	PUMP SITE	$3,249	COST MATRIX C
#117	10500 N. Lost Canyon	PUMP SITE	$3,249	COST MATRIX C
#119	McDowell Mt.	PUMP SITE	$2,243	COST MATRIX B
#120	DC RANCH	PUMP SITE	$4,572	COST MATRIX E
#122	8417 E Union Hills	PUMP SITE	$2,243	COST MATRIX B
#123	17775 N. Scottsdale Rd.	PUMP SITE	$2,243	COST MATRIX B

Project Tasks Cost per Site

#124	12111 E. Shea	PUMP SITE	$3,249	COST MATRIX C
#126	8845 E. Los Gatos	PUMP SITE	$4,572	COST MATRIX E
#130A	8417 E Union Hills	PUMP SITE	$4,827	COST MATRIX F
#131	42508 N. 102 St.	PUMP SITE	$3,249	COST MATRIX C
#135	16207 N. Pima West World Recovery Well Irrigation	PUMP SITE	$2,243	COST MATRIX B
#136	15408 N. Thompson Pk. WestWorld CAP booster	PUMP SITE	$2,243	COST MATRIX B
#137	15510 N. Thompson Peak WestWorld Filter & Pump station	PUMP SITE	$2,243	COST MATRIX B
#138	Sanctuary Golf/soccer	PUMP SITE	$2,243	COST MATRIX B
#140	19900 N. Hayden	PUMP SITE	$2,243	COST MATRIX B
#141	6190 E. Pinnacle Vista	PUMP SITE	$2,243	COST MATRIX B
#143	29780 N. 114 St.	PUMP SITE	$4,250	COST MATRIX D
#144	12203 E. Paraiso Dr.	PUMP SITE	$2,243	COST MATRIX B
#145	12199 E. Alameda Rd.	PUMP SITE	$4,250	COST MATRIX D
#146A1	10939 E. Saguaro Canyon Dr.	PUMP SITE	$4,572	COST MATRIX E
#147	11607 E Del Cielo Dr	PUMP SITE	$2,243	COST MATRIX B
#150	37100 Cavecreek IWDS booster station	PUMP SITE	$4,572	COST MATRIX E
#151	38480 N. Cavcreek IWDS booster station	PUMP SITE	$4,572	COST MATRIX E
#156	Desert Mt. New Well #5	PUMP SITE	$2,243	COST MATRIX B
#157	Wild cat hill Booster	PUMP SITE	$2,243	COST MATRIX B
#179	7061 E. Indian School	PUMP SITE	$4,572	COST MATRIX E
N/A	NW corner of Hayden & Canal - RWPS	PUMP SITE	$9,102	COST MATRIX J
2	8697 E. FILLMORE	SEWER LIFT	$2,243	COST MATRIX B
3	10040 E. HAPPY VALLEY ROAD	SEWER LIFT	$2,243	COST MATRIX B
4	9012 E. HACKMORE DRIVE	SEWER LIFT	$2,243	COST MATRIX B
8	10801 E. HAPPY VALLEY ROAD	SEWER LIFT	$2,243	COST MATRIX B
9	10801 E. HAPPY VALLEY ROAD	SEWER LIFT	$2,243	COST MATRIX B
10	25824 N. 82 STREET	SEWER LIFT	$2,243	COST MATRIX B
11	9510 E. MADERA DR.	SEWER LIFT	$2,243	COST MATRIX B
12	23792 N. 112 ST	SEWER LIFT	$2,243	COST MATRIX B
13	10801 E. SALERO	SEWER LIFT	$2,243	COST MATRIX B
15	10450 E. MONUMENT	SEWER LIFT	$2,243	COST MATRIX B
16	23830 N. 113TH PLACE	SEWER LIFT	$2,243	COST MATRIX B
17	23512 N. 113TH PL	SEWER LIFT	$2,243	COST MATRIX B
18	22910 N. PIMA ROAD	SEWER LIFT	$2,243	COST MATRIX B
19	6601 PEAKVIEW	SEWER LIFT	$2,243	COST MATRIX B
20	12241 N. 134 WAY	SEWER LIFT	$2,243	COST MATRIX B
21	32355 N. 68TH STREET	SEWER LIFT	$3,249	COST MATRIX C
22	5614 E. DOVE VALLEY	SEWER LIFT	$3,249	COST MATRIX C
23	13319 DEL TIMBRE	SEWER LIFT	$2,243	COST MATRIX B
24	6002 E Dynamite	SEWER LIFT	$2,243	COST MATRIX B
25	14354 E. CHERYL DR.	SEWER LIFT	$2,243	COST MATRIX B
26	DESERT SPRINGS	SEWER LIFT	$2,243	COST MATRIX B
26	8615 E. villa Cassandra	SEWER LIFT	$2,243	COST MATRIX B
27	12203 N.130 TH. ST.	SEWER LIFT	$2,243	COST MATRIX B
28	136 ST. & CACTUS	SEWER LIFT	$2,243	COST MATRIX B
28	12816 N137th. St.	SEWER LIFT	$2,243	COST MATRIX B
29	Catavina 9654 N. 131 St.	SEWER LIFT	$2,243	COST MATRIX B
30	Legend Trail 34518 N. 92 Pl.	SEWER LIFT	$2,243	COST MATRIX B
31	LOS DIAMANTIES	SEWER LIFT	$2,243	COST MATRIX B
31	12797 E Appaloosa	SEWER LIFT	$2,243	COST MATRIX B
32	Preserve	SEWER LIFT	$2,243	COST MATRIX B
32	27455 N. 64th. St.	SEWER LIFT	$2,243	COST MATRIX B
33	Saguaro Highland	SEWER LIFT	$3,249	COST MATRIX C
33	27455 N. 56TH. ST	SEWER LIFT	$2,243	COST MATRIX B
42	10210 N. 133 St.	SEWER LIFT	$3,249	COST MATRIX C
43	DESERT MOUNTAIN FOREST 12 EAST	SEWER LIFT	$2,243	COST MATRIX B
43	42652 N Chirichua Pass	SEWER LIFT	$2,243	COST MATRIX B
44	DESERT MOUNTAIN FOREST 12 WEST	SEWER LIFT	$2,243	COST MATRIX B
44	9098 E. Grapvine Pass	SEWER LIFT	$2,243	COST MATRIX B
45	DC RANCH 6.9	SEWER LIFT	$2,243	COST MATRIX B
45	10945 E. Canyon Way	SEWER LIFT	$2,243	COST MATRIX B
46	DC RANCH UNIT	SEWER LIFT	$2,243	COST MATRIX B
46	10681 E. Horse Canyon Dr.	SEWER LIFT	$2,243	COST MATRIX B
47	RESERVE	SEWER LIFT	$2,243	COST MATRIX B
48	MIRAMONTE	SEWER LIFT	$2,243	COST MATRIX B
49	ATALON 118TH & Jomax area	SEWER LIFT	$2,243	COST MATRIX B
50	DC Ranch	SEWER LIFT	$2,243	COST MATRIX B
52	12804 Buckskin Trail (Sereno Canyon)	SEWER LIFT	$3,249	COST MATRIX C
1	4552 N. GOLDWATER	STORM PUMPS	$3,249	COST MATRIX C
2	3939 CIVIC CENTER	STORM PUMPS	$3,249	COST MATRIX C
4	INDIAN BEND & HAYDEN	STORM PUMPS	$2,243	COST MATRIX B
	TASK 8 - Update existing Electrical Safety Policies	N/A	$6,028	COST MATRIX O

TOTAL PROJECT PRICE: **$709,941**

5% CONTINGENCY: **$35,497**

TOTAL PRICE INCLUDING CONTINGENCY: **$745,438**

Delta Systems Engineering, Inc. shall perform the services outlined in this agreement for the stated fee arrangement.

Access To Site:
Unless otherwise stated, Delta Systems Engineering, Inc. will have access to the site for activities necessary for the performance of the services. Delta Systems Engineering, Inc. will take precautions to minimize damage due to these activities, but has not included in the fee the cost of restoration of any resulting damage.

Dispute Resolution:
Any claims or disputes made during design, construction or post-construction between the Client and Delta Systems Engineering, Inc. shall be submitted to non-binding mediation. Client and Delta Systems Engineering, Inc. agree to include a similar mediation agreement with all contractors, subcontractors, sub-consultants, suppliers and fabricators, thereby providing for mediation as the primary method for dispute resolution between all parties.

Billings/Payments:
Invoices for Delta Systems Engineering, Inc. services shall be submitted, at Delta Systems Engineering, Inc.'s option, either upon completion of such services or on a monthly basis. Invoices shall be payable within 30 days after the invoice date. If the invoice is not paid within 30 days, Delta Systems Engineering, Inc. may, without waiving any claim or right against the Client, and without liability whatsoever to the Client, terminate the performance of the service.

Late Payments:
Accounts unpaid 60 days after the invoice date may be subject to a monthly service charge of 1.5% (or the legal rate) on the then unpaid balance. In the event any portion, or all of an account remains unpaid 90 days after billing, the Client shall pay all costs of collection, including reasonable attorney's fees.

Indemnification:
The Client shall, to the fullest extent permitted by law, indemnify and hold harmless Delta Systems Engineering, Inc., its officers, directors, employees, agents and subconsultants from and against all damage, liability and cost, including reasonable attorney's fees and defense costs, arising out of, or in any way connected with the performance by any of the parties above named of the services under this agreement, excepting only those damages, liabilities or costs attributable to the sole negligence or willful misconduct of Delta Systems Engineering, Inc.

Certifications:
Guarantees and Warranties: Delta Systems Engineering, Inc. shall not be required to execute any document that would result in its certifying, guaranteeing or warranting the existence of conditions whose existence Delta Systems Engineering, Inc. cannot ascertain.

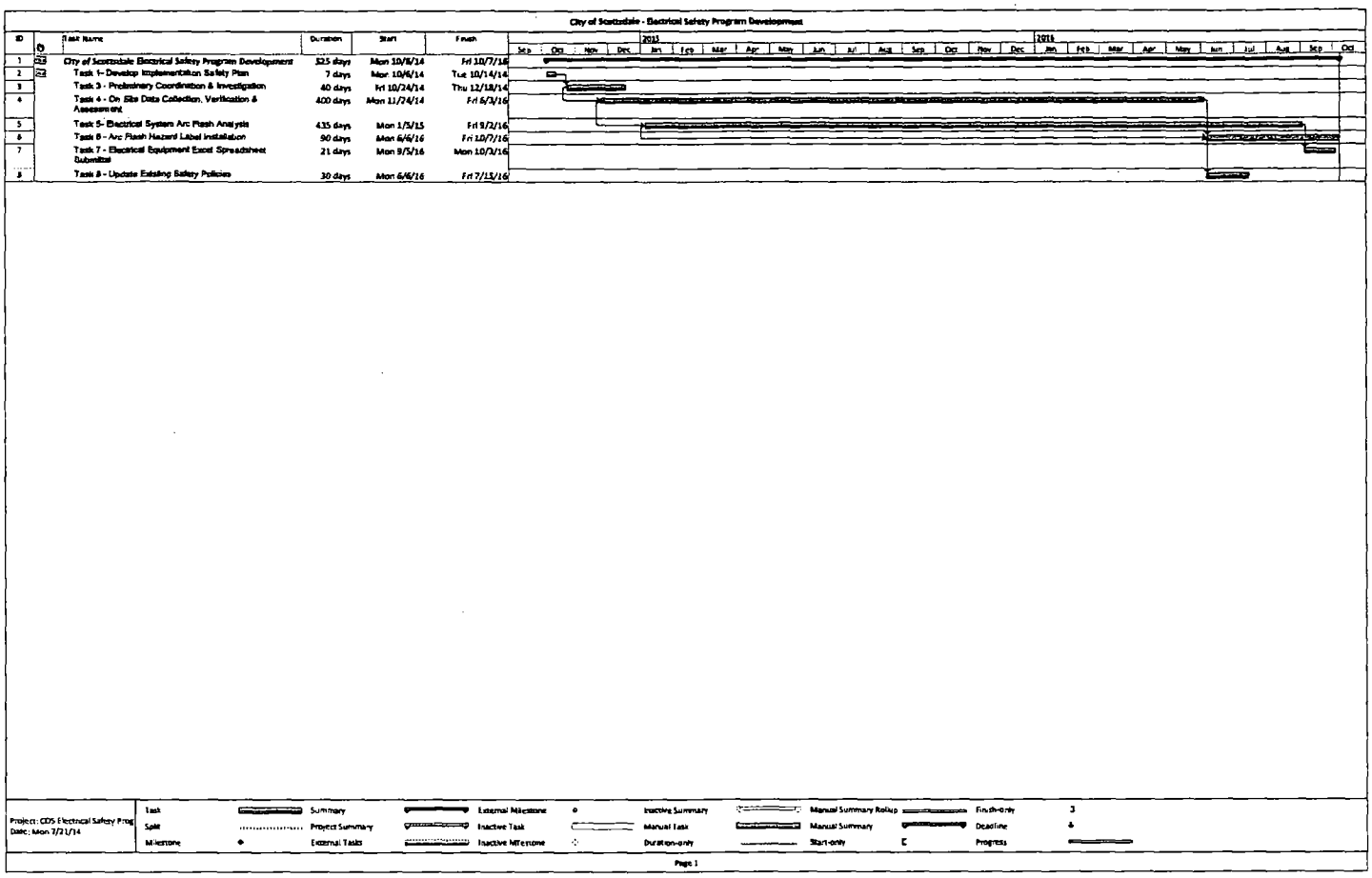
Limitation of Liability:
In recognition of the relative risks and benefits of the Project to both the Client and Delta, the risks have been allocated such that the Client agrees, to the fullest extent permitted by law, to limit the liability of Delta and Delta's officers, directors, partners, employees, shareholders, owners and subconsultants for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, including attorneys' fees and costs and expertwitness fees and costs, so that the total aggregate liability of the Delta and Delta's officers, directors, partners, employees, shareholders, owners and subconsultants shall not exceed the Delta's total fee for services rendered on this Project. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

Termination of Services:
This agreement may be terminated by the Client or Delta Systems Engineering, Inc. should the other fail to perform its obligations hereunder. In the event of termination, the Client shall pay Delta Systems Engineering, Inc. for all services rendered to the date of termination, all reimbursable expenses, and reimbursable termination expenses.

Ownership of Instruments of Service:
All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by Delta Systems Engineering, Inc. as instruments of service shall remain the property of Delta Systems Engineering, Inc. Delta Systems Engineering, Inc. shall retain all common law, statutory and other reserved rights, including copyright thereto.

Software Development:
In no event will Delta Systems Engineering, Inc. be responsible or liable for indirect or consequential damages resulting from the use or misuse of the programs written, debugged, or serviced by Delta Systems Engineering, Inc. for programmable logic controllers, operator interface terminals, human-machine interface application software, or other programmable devices. The Client or End User agrees that Delta Systems Engineering, Inc. shall be held harmless from any claims, obligations, or liabilities including but not limited to special, indirect or consequential damages arising out of or in connection with the use or performance of the software.

Record Documents:
Upon the Client's request and upon completion of the Work, the Delta Systems Engineering, Inc. shall compile for and deliver to the Client a reproducible set of Record Documents based upon the marked-up record drawings, addenda, change orders and other data furnished by the Contractor. These Record Documents will show significant changes made during construction. Because these Record Documents are based on unverified information provided by other parties, which Delta Systems Engineering, Inc. shall assume will be reliable, Delta Systems Engineering, Inc. cannot and does not warrant their accuracy.


City of Scottsdale - Electrical Safety Program Development
ID
Task Name
Duration
Start
Finish
1 City of Scottsdale Electrical Safety Program Development 525 days Mon 10/6/14 Fri 10/7/16
2 Task 1- Develop Implementation Safety Plan 7 days Mon 10/6/14 Tue 10/14/14
3 Task 3 - Preliminary Coordination & Investigation 40 days Fri 10/24/14 Thu 12/18/14
4 Task 4 - On Site Data Collection, Verification & Assessment 400 days Mon 11/24/14 Fri 6/3/16
5 Task 5- Electrical System Arc Flash Analysis 435 days Mon 1/5/15 Fri 9/2/16
6 Task 6 - Arc Flash Hazard Label Installation 90 days Mon 6/6/16 Fri 10/7/16
7 Task 7 - Electrical Equipment Excel Spreadsheet Submittal 21 days Mon 9/5/16 Mon 10/3/16
8 Task 8 - Update Existing Safety Policies 30 days Mon 6/6/16 Fri 7/15/16
2015
2016
Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct
Project: CDS Electrical Safety Prog
Date: Mon 7/21/14
Task
Split
Milestone
Summary
Project Summary
External Tasks
External Milestone
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
Deadline
Progress
Page 1

COST MATRIX A

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
1.0	**Implementation and Safety Plan**									
1.1	CGTF					4.0			4.0	
1.2	Water Campus Facility					6.0			6.0	
1.3	Chaparral WTP					4.0			4.0	
1.4	Gainey Ranch Reclamation Plant					4.0			4.0	
1.5	Project Management			2.0					2.0	
	Total Hours:	0.0	0.0	2.0	0.0	18.0	0.0	0.0	20.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$0**	**$268**	**$0**	**$2,412**	**$0**	**$0**		**$2,680**
	Expenses									**$273**
	Total									**$2,953**

COST MATRIX B

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	**Project Management**		0.5	1.0					1.5	
3.0	**Preliminary Coordination and Investigation**									
3.1	Review of Electrical System Documentation				1.0				1.0	
3.2	Coordinate with Utility				1.0				1.0	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	**Site Visits for Data Collection and Assessment**									
4.1	Complete all fields in data collection and assessment form					2.0	2.0		4.0	
5.0	**Electrical System Arc Flash Analysis**									
5.1	Generate Preliminary Model				1.0				1.0	
5.2	Fault Study (short circuit calculation)				1.0				1.0	
5.3	Breaker Coordination Study				1.0				1.0	
5.4	Arc flash study				1.0				1.0	
5.5	Generate Arc Flash Labels			0.5	1.0			1.0	2.5	
6.0	**Install Arc Flash Labels/Revise Breaker Trip Settings**					2.5			2.5	
7.0	**Electrical Equipment Excel Spreadsheet Submittal**			0.5					0.5	
	Total Hours:	0.0	0.5	2.0	7.0	5.5	2.0	1.0	18.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	$0	$82	$268	$749	$737	$242	$68		$2,146
	Expenses									$97
	Total									$2,243

COST MATRIX C

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	3.0					3.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				0.5				0.5	
3.2	Coordinate with Utility				0.5				0.5	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					5.0	5.0		10.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				1.0				1.0	
5.2	Fault Study (short circuit calculation)				1.0				1.0	
5.3	Breaker Coordination Study				1.0				1.0	
5.4	Arc flash study				1.0				1.0	
5.5	Generate Arc Flash Labels			1.0	1.0			1.0	3.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings					2.5			2.5	
7.0	Electrical Equipment Excel Spreadsheet Submittal			0.5					0.5	
	Total Hours:	0.0	0.5	4.5	6.0	8.5	5.0	1.0	25.5	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$82**	**$603**	**$642**	**$1,139**	**$605**	**$68**		**$3,139**
	Expenses									**$110**
	Total									**$3,249**

COST MATRIX D

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	3.0					3.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				0.5				0.5	
3.2	Coordinate with Utility				0.5				0.5	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					7.0	7.0		14.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				2.0				2.0	
5.2	Fault Study (short circuit calculation)				2.0				2.0	
5.3	Breaker Coordination Study				2.0				2.0	
5.4	Arc flash study				2.0				2.0	
5.5	Generate Arc Flash Labels			1.0	1.0			1.0	3.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings					2.5			2.5	
7.0	Electrical Equipment Excel Spreadsheet Submittal			0.5					0.5	
	Total Hours:	0.0	0.5	4.5	10.0	10.5	7.0	1.0	33.5	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	$0	$82	$603	$1,070	$1,407	$847	$68		$4,077
	Expenses									$173
	Total									$4,250

COST MATRIX E

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	3.0					3.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				0.5				0.5	
3.2	Coordinate with Utility				0.5				0.5	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					8.0	8.0		16.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				2.0				2.0	
5.2	Fault Study (short circuit calculation)				2.0				2.0	
5.3	Breaker Coordination Study				2.0				2.0	
5.4	Arc flash study				2.0				2.0	
5.5	Generate Arc Flash Labels			1.0	1.0			1.0	3.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings					3.0			3.0	
7.0	Electrical Equipment Excel Spreadsheet Submittal			0.5					0.5	
	Total Hours:	0.0	0.5	4.5	10.0	12.0	8.0	1.0	36.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	$0	$82	$603	$1,070	$1,608	$968	$68		$4,399
	Expenses									$173
	Total									$4,572

COST MATRIX F

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	**Project Management**		0.5	3.0					3.5	
3.0	**Preliminary Coordination and Investigation**									
3.1	Review of Electrical System Documentation				0.5				0.5	
3.2	Coordinate with Utility				0.5				0.5	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	**Site Visits for Data Collection and Assessment**									
4.1	Complete all fields in data collection and assessment form					9.0	9.0		18.0	
5.0	**Electrical System Arc Flash Analysis**									
5.1	Generate Preliminary Model				2.0				2.0	
5.2	Fault Study (short circuit calculation)				2.0				2.0	
5.3	Breaker Coordination Study				2.0				2.0	
5.4	Arc flash study				2.0				2.0	
5.5	Generate Arc Flash Labels			1.0	1.0			1.0	3.0	
6.0	**Install Arc Flash Labels/Revise Breaker Trip Settings**					3.0			3.0	
7.0	**Electrical Equipment Excel Spreadsheet Submittal**			0.5					0.5	
	Total Hours:	0.0	0.5	4.5	10.0	13.0	9.0	1.0	38.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$82**	**$603**	**$1,070**	**$1,742**	**$1,089**	**$68**		**$4,654**
	Expenses									**$173**
	Total									**$4,827**

COST MATRIX G

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	**Project Management**		0.5	5.0					5.5	
3.0	**Preliminary Coordination and Investigation**									
3.1	Review of Electrical System Documentation				0.5				0.5	
3.2	Coordinate with Utility				0.5				0.5	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	**Site Visits for Data Collection and Assessment**									
4.1	Complete all fields in data collection and assessment form					12.0	12.0		24.0	
5.0	**Electrical System Arc Flash Analysis**									
5.1	Generate Preliminary Model				3.0				3.0	
5.2	Fault Study (short circuit calculation)				3.0				3.0	
5.3	Breaker Coordination Study				3.0				3.0	
5.4	Arc flash study				3.0				3.0	
5.5	Generate Arc Flash Labels			1.0	1.0			1.0	3.0	
6.0	**Install Arc Flash Labels/Revise Breaker Trip Settings**						4.0		4.0	
7.0	**Electrical Equipment Excel Spreadsheet Submittal**			0.5					0.5	
	Total Hours:	0.0	0.5	6.5	14.0	13.0	16.0	1.0	51.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$82**	**$871**	**$1,498**	**$1,742**	**$1,936**	**$68**		**$6,197**
	Expenses									**$173**
	Total									**$6,370**

COST MATRIX H

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	5.0					5.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				0.5				0.5	
3.2	Coordinate with Utility				0.5				0.5	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					13.0	13.0		26.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				2.0				2.0	
5.2	Fault Study (short circuit calculation)				3.0				3.0	
5.3	Breaker Coordination Study				3.0				3.0	
5.4	Arc flash study				3.0				3.0	
5.5	Generate Arc Flash Labels			1.0	2.0			1.0	4.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings						5.0		5.0	
7.0	Electrical Equipment Excel Spreadsheet Submittal			0.5					0.5	
	Total Hours:	0.0	0.5	6.5	14.0	14.0	18.0	1.0	54.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$82**	**$871**	**$1,498**	**$1,876**	**$2,178**	**$68**		**$6,573**
	Expenses									**$223**
	Total									**$6,796**

COST MATRIX I

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	6.0					6.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				1.0				1.0	
3.2	Coordinate with Utility				1.0				1.0	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					15.0	15.0		30.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				3.0				3.0	
5.2	Fault Study (short circuit calculation)				4.0				4.0	
5.3	Breaker Coordination Study				4.0				4.0	
5.4	Arc flash study				4.0				4.0	
5.5	Generate Arc Flash Labels			1.0	2.0			1.0	4.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings						5.0		5.0	
7.0	Electrical Equipment Excel Spreadsheet Submittal			0.5					0.5	
	Total Hours:	0.0	0.5	7.5	19.0	16.0	20.0	1.0	64.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	$0	$82	$1,005	$2,033	$2,144	$2,420	$68		$7,752
	Expenses									$223
	Total									$7,975

COST MATRIX J

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	7.0					7.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				1.0				1.0	
3.2	Coordinate with Utility				1.0				1.0	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					18.0	18.0		36.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				4.0				4.0	
5.2	Fault Study (short circuit calculation)				4.0				4.0	
5.3	Breaker Coordination Study				4.0				4.0	
5.4	Arc flash study				4.0				4.0	
5.5	Generate Arc Flash Labels			1.0	2.0			1.0	4.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings						6.0		6.0	
7.0	Electrical Equipment Excel Spreadsheet Submittal			0.5					0.5	
	Total Hours:	0.0	0.5	8.5	20.0	19.0	24.0	1.0	73.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$82**	**$1,139**	**$2,140**	**$2,546**	**$2,904**	**$68**		**$8,879**
	Expenses									**$223**
	Total									**$9,102**

COST MATRIX K

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: *City of Scottsdale Electrical Safety Program Development*

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	**Project Management**		0.5	70.0					70.5	
3.0	**Preliminary Coordination and Investigation**									
3.1	Review of Electrical System Documentation				4.0				4.0	
3.2	Coordinate with Utility				2.0				2.0	
3.3	Develop estimated arc flash energy prior to site visit					10.0			10.0	
4.0	**Site Visits for Data Collection and Assessment**									
4.1	Complete all fields in data collection and assessment form					340.0	340.0		680.0	
5.0	**Electrical System Arc Flash Analysis**									
5.1	Generate Preliminary Model				65.0				65.0	
5.2	*Fault Study (short circuit calculation)*				65.0				65.0	
5.3	Breaker Coordination Study				65.0				65.0	
5.4	*Arc flash study*				65.0				65.0	
5.5	Generate Arc Flash Labels			11.0	30.0			11.0	52.0	
6.0	**Install Arc Flash Labels/Revise Breaker Trip Settings**						80.0		80.0	
7.0	**Electrical Equipment Excel Spreadsheet Submittal**			1.0					1.0	
	Total Hours:	0.0	0.5	82.0	296.0	350.0	420.0	11.0	1159.5	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$82**	**$10,988**	**$31,672**	**$46,900**	**$50,820**	**$748**		**$141,210**
	Expenses									**$2,473**
	Total									**$143,683**

COST MATRIX L

Project Number: 2014.02.2277
Project Name: City of Scottsdale Electrical Safety Program Development

Date: 7/14/14

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	40.0					40.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				2.0				2.0	
3.2	Coordinate with Utility				2.0				2.0	
3.3	Develop estimated arc flash energy prior to site visit					2.0			2.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					173.0	173.0		346.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				40.0				40.0	
5.2	Fault Study (short circuit calculation)				40.0				40.0	
5.3	Breaker Coordination Study				40.0				40.0	
5.4	Arc flash study				40.0				40.0	
5.5	Generate Arc Flash Labels			5.0	15.0			5.0	25.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings						38.0		38.0	
7.0	Electrical Equipment Excel Spreadsheet Submittal			1.0					1.0	
	Total Hours:	0.0	0.5	46.0	179.0	175.0	211.0	5.0	616.5	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	$0	$82	$6,164	$19,153	$23,450	$25,531	$340		$74,720
	Expenses									$1,073
	Total									$75,793

COST MATRIX M

Project Number: 2014.02.2277 Date: 7/14/14

Project Name: City of Scottsdale Electrical Safety Program Development

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	10.0					10.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				1.0				1.0	
3.2	Coordinate with Utility				1.0				1.0	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					29.0	29.0		58.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				6.0				6.0	
5.2	Fault Study (short circuit calculation)				6.0				6.0	
5.3	Breaker Coordination Study				6.0				6.0	
5.4	Arc flash study				6.0				6.0	
5.5	Generate Arc Flash Labels			1.0	4.0			1.0	6.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings						10.0		10.0	
7.0	Electrical Equipment Excel Spreadsheet Submittal			1.0					1.0	
	Total Hours:	0.0	0.5	12.0	30.0	30.0	39.0	1.0	112.5	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	$0	$82	$1,608	$3,210	$4,020	$4,719	$68		$13,707
	Expenses									$373
	Total									$14,080

COST MATRIX N

Project Number: 2014.02.2277
Project Name: City of Scottsdale Electrical Safety Program Development

Date: 7/14/14

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
2.0	Project Management		0.5	6.0					6.5	
3.0	Preliminary Coordination and Investigation									
3.1	Review of Electrical System Documentation				1.0				1.0	
3.2	Coordinate with Utility				1.0				1.0	
3.3	Develop estimated arc flash energy prior to site visit					1.0			1.0	
4.0	Site Visits for Data Collection and Assessment									
4.1	Complete all fields in data collection and assessment form					33.0	33.0		66.0	
5.0	Electrical System Arc Flash Analysis									
5.1	Generate Preliminary Model				7.0				7.0	
5.2	Fault Study (short circuit calculation)				7.0				7.0	
5.3	Breaker Coordination Study				7.0				7.0	
5.4	Arc flash study				7.0				7.0	
5.5	Generate Arc Flash Labels			1.0	4.0			1.0	6.0	
6.0	Install Arc Flash Labels/Revise Breaker Trip Settings						12.0		12.0	
7.0	Electrical Equipment Excel Spreadsheet Submittal			1.0					1.0	
	Total Hours:	0.0	0.5	8.0	34.0	34.0	45.0	1.0	122.5	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	$0	$82	$1,072	$3,638	$4,556	$5,445	$68		$14,861
	Expenses									$373
	Total									$15,234

COST MATRIX O

Project Number: 2014.02.2277
Project Name: City of Scottsdale Electrical Safety Program Development

Date: 7/14/14

Task No.	Description	Principal Engineer	Project Mgr. V	Project Mgr. II	Staff Designer V	Const. PM III	Const. PM II	Admin I	Total Hrs.	Section Subtot.
9.0	**Update existing Electrical Safety Policies Based on NFPA 70E Recommendations**									
9.1	Project Management			6.0					6.0	
9.2	Review existing Safety Policies			2					2.0	
	Update the following Electrical Safety Program Topics									
9.3	-Energized Electrical Work & Authorization			8.0					8.0	
9.4	-PPE Requirements			4.0					4.0	
9.5	-Qualifying and Authorizing Personnel			8.0					8.0	
9.6	Submit Preliminary Electrical Safety Program Policy updates			1.0				0.5	1.5	
9.7	Preliminary Electrical Safety Program Policies Workshop			5.0					5.0	
	Final Electrical Safety Program Policy updates									
9.8	Incorporate Electrical Safety Program Policies review comments			4.0					4.0	
9.9	Final QA/QC		2.0	2.0					4.0	
9.10	Submit Final Electrical Safety Program Policies			0.5				1.0	1.5	
	Total Hours:	0.0	2.0	40.5	0.0	0.0	0.0	1.5	44.0	
	Standard Hourly Rates:	$187.00	$163.00	$134.00	$107.00	$134.00	$121.00	$68.00		
	Total Cost:	**$0**	**$326**	**$5,427**	**$0**	**$0**	**$0**	**$102**		**$5,855**
	Expenses									**$173**
	Total									**$6,028**